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**United States Patent** [19]

Soane et al.

[11] **Patent Number:** **5,858,188**[45] **Date of Patent:** **Jan. 12, 1999****[54] ACRYLIC MICROCHANNELS AND THEIR USE IN ELECTROPHORETIC APPLICATIONS****[75] Inventors:** **David S. Soane; Zoya M. Soane**, both of Piedmont, Calif.**[73] Assignee:** **ACLARA BioSciences, Inc.**, Hayward, Calif.**[21] Appl. No.:** **627,484****[22] Filed:** **Apr. 4, 1996****Related U.S. Application Data****[63]** Continuation-in-part of Ser. No. 430,134, Apr. 26, 1995, abandoned, which is a continuation of Ser. No. 196,763, Feb. 14, 1994, abandoned, which is a continuation of Ser. No. 880,187, May 7, 1992, abandoned, which is a continuation of Ser. No. 487,021, Feb. 28, 1990, Pat. No. 5,126,022.**[51] Int. Cl.<sup>6</sup>** ..... **G01N 27/26; G01N 27/447****[52] U.S. Cl.** ..... **204/454; 204/450; 204/451; 204/600; 204/601****[58] Field of Search** ..... **204/454, 450, 204/451, 452, 453, 455, 601, 602, 603, 604, 605, 600****[56] References Cited****U.S. PATENT DOCUMENTS**

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**[57]****ABSTRACT**

Microchannels having at least an acrylic inner surface and methods of their use in electrophoretic applications are provided. The subject microchannels may be in the form of a variety of configurations suitable for holding an electrophoretic medium. The subject microchannels give rise to substantially reduced EOF and/or adsorption as compared to fused silica under conditions of electrophoresis and find use in a variety of electrophoretic applications in which charged entities are moved through a medium under the influence of the an applied electric field.

**45 Claims, 1 Drawing Sheet**